

CLAIMS:

1. A data communication node forwarding inbound packets,
5 the node comprising:

an access controller receiving an inbound packet and
classifying the packet, the access controller determining whether
the packet is to be admitted into the node or not based on
congestion status data determined from the classification
10 information; and

a switching controller coupled to the access controller, the
switching controller receiving the admitted inbound packet from
the access controller for further classifying the packet, the
switching controller determining whether the packet is to be
15 forwarded to a destination address or not based on additional
congestion status data determined from additional classification
information.

2. The data communication node of claim 1, wherein the
20 access controller is a media access controller.

3. The data communication node of claim 1, wherein the
classification information includes a priority associated with
25 the inbound packet.

4. The data communication node of claim 3, wherein the
access controller gives precedence in admitting packets
30 associated with a first priority over packets associated with a
second priority.

5 5. The data communication node of claim 1, wherein the access controller includes a buffer storing admitted inbound packets.

10 6. The data communication node of claim 5, wherein the congestion status data includes a buffer utilization level, the access controller admitting the inbound packet if the utilization level is lower than a predetermined threshold level.

15 7. The data communication node of claim 5, wherein the congestion status data includes a buffer utilization level, the access controller discarding the inbound packet if the utilization level is higher than a predetermined threshold level.

20 8. The data communication node of claim 1, wherein the access controller discards the inbound packet based on a discard probability that varies based on the classification information.

25 9. An access controller in a data communication node comprising:

an input receiving an inbound packet;

25 a classification engine coupled to the input classifying the inbound packet;

a buffer storing admitted inbound packets; and

30 a disposition engine coupled to the classification engine and the buffer, the disposition engine receiving the classification information and determining whether the inbound packet is to be admitted or not based on a utilization level of the buffer determined from the classification information, the

disposition engine delivering the inbound packet to a switching controller if the packet is admitted.

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10. The access controller of claim 9, wherein the classification information includes a priority associated with the inbound packet.

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11. The access controller of claim 10, wherein the disposition engine gives precedence in admitting packets associated with a first priority over packets associated with a second priority.

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12. The access controller of claim 9, wherein the disposition engine admits the inbound packet if the utilization level of the buffer is lower than a predetermined threshold level.

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13. The access controller of claim 9, wherein the disposition engine discards the inbound packet if the utilization level of the buffer is higher than a predetermined threshold level.

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14. The access controller of claim 9, wherein the disposition engine discards the inbound packet based on a discard probability that varies based on the classification information.

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15. A method for packet traffic management in a data communication node including an access controller and a switching controller, the method comprising:

at the access controller:

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receiving an inbound packet;
classifying the inbound packet;
5 determining congestion status data from the
classification information;
admitting the inbound packet or not based on the
congestion status data; and
delivering the inbound packet to the switching
10 controller if the packet is admitted; and
at the switching controller, determining whether the
admitted packet is to be forwarded to a destination address.

15 16. The method of claim 15, wherein the access controller
is a media access controller.

20 17. The method of claim 15, wherein the classification
information includes a priority associated with the inbound
packet.

25 18. The method of claim 17, wherein the admitting the
inbound packet further comprises giving precedence to packets
associated with a first priority over packets associated with a
second priority.

30 19. The method of claim 17 further comprising storing the
inbound packet in a packet buffer associated with the access
controller if the packet is admitted.

35 20. The method of claim 19, wherein the determining of the
congestion status data comprises determining a utilization level
of the packet buffer.

21. The method of claim 20, wherein the admitting of the
5 inbound packet comprises admitting the inbound packet if the
utilization level of the packet buffer is lower than a
predetermined threshold level.

22. The method of claim 20 further comprising discarding
10 the inbound packet if the utilization level of the packet buffer
is higher than a predetermined threshold level.

23. The method of claim 20 further comprising discarding
15 the inbound packet based on a discard probability that varies
based on the classification information.